

From owner-qrp-1@netcom.com Sat Dec 31 01:26:27 1994
From: ab4el@Cybernetics.NET (Stephen Modena)
Message-Id: <9412310251.AA19162@Cybernetics.NET>
Subject: AB4EL: 35.81245N, 78.65849W
Date: Fri, 30 Dec 1994 21:51:33 -0500 (EST)

Within perhaps 10 or 20 feet, my location for the purpose of Mi/W
calculations is:

35 deg 48 min 44.84 sec NORTH
78 deg 39 min 30.58 sec EAST

35.81245 N
78.65849 E

interpolated from this U.S.G.S. map:

"Raleigh West Quadrangle
North Carolina -- Wake Co.
7.5 Minute Series (Topographic)
(SW/4 Raleigh 15 minute quadrangle)
35078-G6-TF-024 1968 Photorevised 1987"

--

73/Steve/AB4EL ab4el@Cybernetics.NET in Raleigh, NC 35.81245N, 78.65849W

From owner-qrp-1@netcom.com Fri Dec 30 10:46:47 1994
From: THaby@swri.edu
Date: Fri, 30 Dec 94 7:57:19 CST
Message-Id: <Wjg8+VB,,ja@D26VS046A.CCF.SwRI.EDU>
Subject: Backpacker II

Is anyone familiar with the Backpacker II kit from Tejas Kits. If so is it
a good kit, any flaws, etc... Thanks, all help is appreciated.
Tim Haby N5YEB
thaby@swri.edu

From owner-qrp-1@netcom.com Fri Dec 30 13:32:16 1994
Date: Fri, 30 Dec 1994 11:37:00 EST
From: RTRC25A@prodigy.com (MR PRESTON J DOUGLAS)
Message-Id: <013.02508002.RTRC25A@prodigy.com>
Subject: Re: Backpacker II

-- [From: Preston Douglas * EMC.Ver #2.10P] --

Tim, You know the backpacker is a direct conversion receiver. If you haven't used one of these, you may not like it. It is not single signal--that is you get the same signal twice, once on each side of zero beat which is a royal pain. Zero beating another station, unless you know which side of zero you are on has a 50/50 chance of being 1500cycles off. If, however, have experience with dc receivers and still want one, I hear the backpacker is a very well done kit. I just won't buy a dc when superhets are as cheap or cheaper. Preston WJ2V

From owner-qrp-1@netcom.com Fri Dec 30 03:54:38 1994
From: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org (Mike Czuhajewski)
Subject: Re: Corrected PWR Calcs
Date: Thu, 29 Dec 94 23:59:27 EST5EDT
Message-Id: <1994Dec29.235927.14076@wb3ffv.ampr.org>

Glad to see you corrected the error. This same error keeps popping up from time to time over the years, and most, but not all, of the people who make the mistake admit they were wrong when presented with the facts. (No names...the guilty party may be reading this, although I don't think I've ever seen his name on Internet anywhere :-)

The problem, of course, was basically a faulty conversion from peak, or peak to peak, over to RMS, and the result every time someone makes this error seems to invariably be that everything in the table comes out twice as large--where it says 2 watts, for instance, the actual power is only one watt. That's the best part about making the mistake--when you find out you blew it, it turns out you were only running half as much power as you thought, and for the QRPer that's a real bonus--makes all the DX so much sweeter, and might even turn some of those contacts in 1000 Miles Per Watt qualifiers! (By the way, NN1G just sent me a copy of the Dec 94 issue of the VK-land QRP journal, and it had a QRP wattmeter article....and it made exactly the same mistake, inflating everything by 2 :-)

73 and Queue Our Pea DE WA8MCQ

--

Mike Czuhajewski, user of the UniBoard System @ wb3ffv.ampr.org
E-Mail: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org
The WB3FFV Amateur Radio BBS - Located in Baltimore, Maryland USA
Supporting the Amateur Radio Hobby, and TCP/IP InterNetworking

From owner-qrp-1@netcom.com Sat Dec 31 02:03:13 1994
From: N9DD@aol.com
Date: Sat, 31 Dec 1994 00:19:07 -0500
Message-Id: <941231001906_2948420@aol.com>
Subject: Re: damn, Damn, DAMN !!!

I sure wish I had planned things better. My 3rd son was born on the last weekend of June!

73,

Tom N9DD

From owner-qrp-1@netcom.com Fri Dec 30 02:05:56 1994
Date: Thu, 29 Dec 1994 19:10:48 -0800 (PST)
From: Monte Stark <mswmod@sage.unr.edu>
Subject: FOX recap
Message-Id: <Pine.SUN.3.90.941229184437.11939A-100000@nimbus>

Hi all,

Thanks to all the faithfull who stayed with it and let me hear them through the bad noise up in Idaho. Wx was light rain and the noise was from S3 to S8, back and forth!

Here is what I wound up with.

Time	Station	Sent	Rcvd
0300	AB50U	559 ID	569 NM
01	NA5K	579 ID	579 TX
05	N6ULU	599 ID	599 CA
06	K5UP	449 ID	579 OK
14	WW7Y	579 ID	Lose him in the noise
16	AB4EL	559 ID	Lost him in the noise
20	KC5EQC	559 ID	529 MO
21	K6QQ	579 ID	429 CA
26	KB0LMQ	569 ID	358 CO
33	AB4EL	549 ID	589 NC
42	N0ZYK	599 ID	599 CO
0404	VE6GK	559 ID	599 AB
13	AB4EL	339 ID	589 NC
16	KE4PC	339 ID	449 TX
26	WA6HHQ	589 ID	589 CA
40	KK6ZC	549 ID	589 CA
41	WB0GIX	589 ID	589 CA
43	N7AFB	599 ID	599 MT
57	NN9K	339 ID	449 IL (This one was very hard to get. Noise and signal up and down togeather!)

I was using the station of Idaho's Section Manager, Don, KA7T.
I used to live one place west of him. Super guy. Works lots of
160.

Rig.....TS950 down to 5w out.
Antenna....2 ele yagi up about 80 feet.

N0ZYK sounded like a new ham. About 7wpm and sending a few
letters wrong now and then. Have you ever tried to explain
a contest format at that speed?

But the newcomers are the life blood of amateur radio. We
must always remember that we were all new once. If it takes
15-20 mins, don't sweat it. Work that much longer if you
want. I think Chuck and all the rest would agree. Lets be
sure EVERYONE has fun.

Again, thanks to all, Ron

.....KU7Y.....Monte "Ron" Stark.....
..mswmod@sage.unr.edu.....Sun Valley, Nevada....
.....ARRL.....NorCal #330.....NRA LIFE.....

From owner-qrp-l@netcom.com Fri Dec 30 05:26:20 1994
Date: Thu, 29 Dec 1994 20:30:30 -0500 (EST)
From: CEBIK@utkvx.utk.edu
Subject: Good books
Message-Id: <01HL88SU9JRS8Y6CL7@utkvx.utk.edu>

THanks to Mike for the book review. A must read!.
At last report, DeMaw's Ferromagnetics book was available from Amidon, but
I think no longer from Prentice-Hall. Check a recent Amidon Flyer to be
sure.

-73-

LB, W4RNL
cebig@utkvx.utk.edu

From owner-qrp-l@netcom.com Fri Dec 30 19:11:13 1994
Date: Fri, 30 Dec 1994 15:12:07 -0500 (EST)
From: Wynn C C <wyn@stc06.CTD.ORNL.GOV>
Subject: KM/W determination
Message-Id: <Pine.OSF.3.91.941230151025.21416A-1000000@stc06.CTD.ORNL.GOV>

On Fri, 30 Dec 1994 Arjen Raateland,<Arjen.Raateland@vyh.fi> wrote:

>>

>>Most output waveforms have some residual harmonic content. Again, these
>>errors usually result in offsets in the conservative direction.

>I don't know the FCC-regulations concerning harmonic content of
>the transmitter signal for certain, but from building projects in
>the ARRL Handbook I remember some 36 dB suppression seems to be OK.

>Well, 36 dB is 1/4000 of the power, if I'm not mistaken. The influence
>of the harmonics on the waveform and therefore on power calculations
>based on peak voltage read from an oscilloscope screen must be very
>small.

>Whatsay?

In the USA:

"97.307 Emission standards. -.....

(c) All spurious emissions from a station transmitter must
be reduced to the greatest extent practicable,.....
in accordance with good engineering practice.

(d) The mean power of any spurious emission from a station
transmitter or external RF power amplifier transmitting on a frequency
below 30 MHz must not exceed 50 mW and must be at least 40 dB below the
mean power of the fundamental emission. For a transmitter of mean power
less than 5 W, the attenuation must be at least 30 dB. A transmitter
built before April 15, 1977, or first marketed before January 1, 1978, is
exempt from this requirement."

Touche, Arjen. Maximum legal distortion would also be practically
invisible on a typical 8 X 10 cm time domain display of the fundamental
wave, at least to these old eyes. A deviation from pure sine wave of,
for example, one division out of ten on the O-scope would only be a
20 dB increment, or about 30 milliwatts in 5 watts or about 11500 KM/W
error in Paul and Fran's new 40 meter record.

Nonetheless, I support Rich's recommendation to the ARCI BoD of switching
the transmitter to a robust non-reactive dummy load of measured resistance
through a short piece of line to obtain the W value using the O-scope.
It is both straight forward and conservative. Of course the next question
is how to do SSB power measurements for similar records?

72/73 es Happy New Year
Clay N4AOX
wyn@ornl.gov

From owner-qrp-l@netcom.com Fri Dec 30 21:08:13 1994
Date: Fri, 30 Dec 1994 20:13:24 -0500 (EST)
From: Aa4xx <aa4xx@nando.net>
Subject: Re: KM/W determination
Message-Id: <Pine.SUN.3.90.941230195221.25483D-100000@merlin.nando.net>

On Fri, 30 Dec 1994, Wynn C C wrote:

>
> On Fri, 30 Dec 1994 Arjen Raateland,<Arjen.Raateland@vyh.fi> wrote:
>
> >>
> >>Most output waveforms have some residual harmonic content. Again, these
> >>errors usually result in offsets in the conservative direction.
>

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> >of the harmonics on the waveform and therefore on power calculations
> >based on peak voltage read from an oscilloscope screen must be very
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> invisible on a typical 8 X 10 cm time domain display of the fundamental
> wave, at least to these old eyes. A deviation from pure sine wave of,
> for example, one division out of ten on the O-scope would only be a
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>

> Nonetheless, I support Rich's recommendation to the ARCI BoD of switching
> the transmitter to a robust non-reactive dummy load of measured resistance
> through a short piece of line to obtain the W value using the O-scope.
> It is both straight forward and conservative. Of course the next question
> is how to do SSB power measurements for similar records?
>

> 72/73 es Happy New Year
> Clay N4AOX
> wyn@ornl.gov
>

>

Thanks, Clay for your thoughts on the subject of power determination. For my tests I used a homebrew non-reactive dummy load, composed of nine resistors (value of 470 ohms each 2% tolerance), carbon composition. The resistors were wired in parallel, providing a load of 52.1 ohms in my case.

Upon switching over to the wirebeam antenna, I could not detect any deviation in peak-to-peak amplitude (as measured on the oscilloscope) between the beam and the dummy load. The beam's swr was almost perfectly flat at the operating frequency, indicating that there was minimal reactance. 72,

Paul AA4XX@nando.net

From owner-qrp-l@netcom.com Fri Dec 30 09:28:19 1994

Subject: long distance QRPpp???

From: brian.carling@acenet.com (Brian Carling)

Message-Id: <2a6.5793.500@acenet.com>

Date: Fri, 30 Dec 1994 07:08:00 -0500

>From: brian.carling@acenet.com

PE>Some how I missed the details here the other day about the fantastic two way
PE>QRP contact at the microwatt level. Could someone please repost it or send
PE>it to me. I would like to share it with my club next week when I do my QRP
PE>presentation at the monthly meeting.

PE>Can anyone help?

PE>PeterWK8S@aol.com

Sure, it was easy... They used an antenna comprised of 545 miles of enameled copper wire between the two QTHs.... 8^)

Brian, AF4K

~ SLMR 2.1a ~ Despair: an extra tire in da trunk!

From owner-qrp-l@netcom.com Fri Dec 30 10:02:35 1994

From: Cooktk@aol.com

Date: Fri, 30 Dec 1994 07:41:29 -0500

Message-Id: <941230074125_2282984@aol.com>

Subject: Mail???

Havn't received any mail in about 5 or 6 days, was getting 20-30 messages per day.... wonder what gives?????

Happy New Year to all....

will be working on a OHR Classic in the next few days.. hope it's as good as everyone says. anyone have any useful info or special things to watch out for???

73's

Tim, NZ8J

From owner-qrp-1@netcom.com Fri Dec 30 02:09:30 1994
Date: Thu, 29 Dec 1994 23:20:02 -0500 (EST)
From: prvalko <prvalko@vela.acs.oakland.edu>
Subject: Re: MI-QRP
Message-Id: <Pine.3.89.9412292359.B17694-01000000@saturn.acs.oakland.edu>

On Thu, 29 Dec 1994, Robert Marlan wrote:

> Can you send me details about the saturday meeting
> times, exact location, agenda
> and perhaps your phone # in case I need more details
> thanks

Sure. Take I-75, M-24, or M-53 (Van Dyke) North to I-69 which runs east/west outta Port Huron and across to Lansing.

If you took I-75, you must head EAST on I-69 towards Davison and the M-15 (Dixie Highway) exit. M-24 and M-53 will have you heading WEST on I-69 toward Davison.

Country Jim's is North of I-69. Exit onto M-15, head north to the first light, turn EAST a couple hundred feet... you can't miss it. Talk in on 146.62 (-600) and 146.52.

73! =paul= wb8zjl

Be there or be somewhere else

From owner-qrp-1@netcom.com Fri Dec 30 14:06:48 1994
From: PeterWK8S@aol.com
Date: Fri, 30 Dec 1994 12:26:53 -0500
Message-Id: <941230122652_2441223@aol.com>
Subject: Offers for a Ten Tec PM1

Classic Rig in very, very good condition is available to some QRP enthusiast who can appreciate it. I am only the 3rd owner. I have full documentation and schematics including some magazine ads from its era. This unit is unmodified and in full working order. Cosmetics are very good. If interested please email me (don't post here) with your sincere offer. No trades thank you.
PeterWK8S@aol.com

Unfortunately, I must recycle my radio funds so out with the old makes room for the new (QRP of course!).

From owner-qrp-1@netcom.com Fri Dec 30 16:18:05 1994
Date: Fri, 30 Dec 94 11:43:24 -0600
From: adams@chuck.dallas.sgi.com (chuck adams)
Message-Id: <9412301743.AA29412@chuck.dallas.sgi.com>
Subject: PM2/PM2A Schematics

Someone asked me for a copy of this. Who was it?
You got 'til sundown before the mail rates go up
on Sunday. :-)

dit dit
Chuck Adams K5FO CP-60 adams@sgi.com

From owner-qrp-1@netcom.com Fri Dec 30 10:03:55 1994
Date: Fri, 30 Dec 1994 14:45:43 +0200 (EET)
From: "Arjen Raateland, VYH/vet, puh. 90-4028 350" <Arjen.Raateland@vyh.fi>
Subject: Power and harmonics
Message-Id: <01HL9B3TU84I91WKGf@vyh22.vyh.fi>

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>errors usually result in offsets in the conservative direction.
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>Clay N4AOX
>wyn@ornl.gov
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based on peak voltage read from an oscilloscope screen must be very
small.

Whatsay?

73 de OH2ZAZ
Arjen Raateland

From owner-qrp-1@netcom.com Fri Dec 30 11:01:51 1994
From: JDuffy@aol.com

Date: Fri, 30 Dec 1994 09:03:07 -0500
Message-Id: <941230090305_2313188@aol.com>
Subject: Re: QRP PLUS SSB MIC

The mic that Bruce at Index supplies is some off Japanese brand seemingly like the miniature HT mic that MJF supplies. It is called a QSOK mic. Anyway, like the manual says, you adjust the level so that the meter peaks at the meter's half way mark, or something to that effect.

In the past few days I have had 11 QSOs. Michigan, Florida, California, Arizona, Missouri, Texas, Massachusetts, Tennessee, and South Carolina. Reports have been fair to good.

The way I locate them is to find the strongest phone sigs and then give them a call when they have finished their QSOs with other stations. Works everytime. Even got 2 QSOs with CQs!

Regards,

Duffy - WB8NUT

From owner-qrp-l@netcom.com Fri Dec 30 20:10:03 1994
Date: Sat, 31 Dec 1994 00:46:04 +0200 (EET)
From: "Arjen Raateland, VYH/vet, puh. 90-4028 350" <Arjen.Raateland@vyh.fi>
Subject: QRP SPIRIT adjustment
Message-Id: <01HL9W34WSOY91WKT7@vyh22.vyh.fi>

I don't have all of the gear that the OHR instructions for the QRP Spirit presuppose, so I used an alternative procedure to do some of the adjustments of my 80 m QRP Spirit. My procedure doesn't address the tuning of filters or VFO range.

1. Connect a hookup wire with a small clip to the cathode of zener diode D7 which stabilizes the supply voltage of the TX carrier oscillator (Q8) on the TX board. Connect the other end of the hookup wire via a 330 Ohms resistor to a stable PS at about 12 volts. You may adjust the voltage on the cathode of D7 to about 9 volts by raising the output voltage from the PS. I couldn't hear the frequency of the carrier oscillator (Q8) change as I listened to the beat on a GC receiver when the voltage on D7 went up from an initial 6 volts to 8.7 volts, so the voltage on D7 doesn't seem to be critical.

2. Switch the rig on and listen to the beat note. The TX carrier oscillator at 9 MHz is now working and its signal leaks into the receiver beating with the local oscillator on 9 MHz. If the beat note is weak or absent, adjust C109 on the RX board first until you have a nice beat note. Switch the AGC off. Adjust the TX carrier frequency with C56 for loudest beat note. Use an AC voltmeter on the audio

output if you like. This adjustment puts the TX carrier frequency right in the peak of the IF filter passband.

3. Adjust the beat note to 700 - 800 Hz with C109 on the RX board using e.g. a frequency counter. This puts the local oscillator (Q20) 700 - 800 Hz away from the IF filter centre/TX carrier frequency.

4. Remove the hookup wire from D7 so the TX carrier oscillator is off.

5. Make sure the local oscillator is on the lower side of the IF filter passband by tuning over a signal on the band from high to low. The beat note should go from high to low. If it goes from low to high instead, reconnect the hookup wire to the cathode of D7, go back to point 3 to find another position of C109 at which the beat note is 700 - 800 Hz.

6. Listen to the VFO output signal at somewhere between 12.5 - 12.6 MHz with a GC receiver. Set RIT to middle position. Tune for zero beat adjusting the main tuning of either rig. With a dummy load on the TX output, key the TX and observe the beat note in the GC receiver. Adjust R27 on the RX board for zero beat at key down. Alternatively you could also use a beat frequency other than zero and observe the change when keying. Adjust for no change. This will put the VFO injection for RX and TX operation at the same frequency.

When the RX is tuned to a signal at a frequency F_r for loudest reception, the VFO frequency (F_v) is such that the signal is mixed to the centre frequency (F_c) of the IF filter bandpass.

$$(1): F_r = F_v - F_c$$

The TX carrier is at the same centre frequency F_c (point 2). There is also no difference in VFO output frequency between RX (w/o RIT) and TX (point 6), so the TX output (F_t) will be exactly on the frequency of the station we have tuned the RX to.

$$(2): F_t = F_v - F_c$$

>From (1) and (2): $F_t = F_r$

I suppose that when one follows the OHR instructions the TX output will only be exactly on the same frequency as the RX if the 'nice mellow tone in the other radio' used in adjusting the TX carrier frequency (C56) is the same as the '700 or 800 Hz CW note' used for the adjustment of the local oscillator (C109).

73 and best wishes for 1995 de OH2ZAZ, ex-PAoSCS
Arjen Raateland

From owner-qrp-l@netcom.com Fri Dec 30 17:04:19 1994
Date: Fri, 30 Dec 1994 22:26:02 +0200
From: Keinanen Paul <k23690@proffa.cc.tut.fi>
Message-Id: <199412302026.WAA12322@proffa.cc.tut.fi>
Subject: R2 diplexer and preamp

I have been building some modules based on Rick Campbell's R1 receiver design (QST August 1992) and I was thinking of expanding it to a phasing receiver based on the R2 design (QST January 1993). I was studying the R2 circuit diagrams and I could not figure out why the same complex mixer termination/diplexer is used as in the simpler R1 receiver with filter corner frequencies close to the audio band at 300 Hz and 3 kHz.

This has the disadvantage of phase shifts within the wanted audio passband and careful matching between I and Q channel diplexers (and their corner frequencies) is required. The main part of selectivity is still after the phase shifter and combiner so why not simply widen the diplexer passband from (say) 150 Hz to 6 kHz. The absolute phase shift within the critical 300 Hz to 3 KHz band would be smaller and thus the differential phase shift would also be smaller even if the corner frequencies in the I and Q channels are not matched by selecting identical inductors and capacitors.

Has anybody actually tested this ?

If I understand the function of the 40 dB preamp correctly, the gain is determined by transistor parameters and thus it can fluctuate in the I and Q channels. Does anybody know of any suitable preamp design with low noise, 50 ohm input and about 30 dB gain (determined by feedback resistors) or is it just simpler to terminate the diplexer with a 50 ohm resistor to ground and use a microphone preamp or ultra low opamp (such as LT1028) ?

Paul OH3LWR

--

Phone	: +358-31-213 3657	Mail: Hameenpuisto 42 A 26
Internet:	Paul.Keinanen@cc.tut.fi	FIN-33200 TAMPERE
Telex	: 58-100 1825 (ATTN: Keinanen Paul)	FINLAND
X.400	: G=Paul S=Keinanen O=Kotiposti A=ELISA C=FI	

From owner-qrp-l@netcom.com Fri Dec 30 20:17:19 1994
Date: Sat, 31 Dec 1994 01:07:08 +0200 (EET)
From: "Arjen Raateland, VYH/vet, puh. 90-4028 350" <Arjen.Raateland@vyh.fi>
Subject: Re: RE: Power and harmonics

Message-Id: <01HL9WT8LIF691WKFA@vyh22.vyh.fi>

>Yes, if a rig meets the legal requirements for harmonic suppression, the
>effects of harmonic content on power output will be minimal. Of
>course, some homebrew rigs don't meet the requirements, nor do some kit
>rigs, such as the Ramsey 40 meter rig that a friend of mine built.
>I tried it on three different things with spectrum analyzer
>functions, the last one being a real analyzer by Hewlett Packard,
>and they all agreed--it had only 20 dB suppression of the second
>harmonic, so I added an additional filter to it. 73 de WA8MCQ

Mike,

Did you measure any other (QRP-)rigs? My QRP Spirit 80 m has an output filter with two coils and 3 caps in a double PI LP-filter arrangement. >From the looks of them, the coils are wound on T50-2 toroids and they have about 25 turns, which makes abt. 3 microH. The caps are 2x620pF and 1x1200pF. I haven't figured out what kind (Bessel, Chebyshev etc.) of filter it is, but it seems to me that the cut-off isn't all that close to 3.6 MHz, so the harmonic suppression may not be so good. I guess I should add one more section, but I don't have good enough caps yet.

On frequencies below 30 MHz local regulations prescribe a minimum of 40 dB suppression of harmonics and other out-of-band products.

Do you or anybody else have measurement results concerning the purity of the output of this particular type of rig?

Any idea about type and curve of the LP filter?

73 de OH2ZAZ, Arjen Raateland